Intracranial complications arising from acute otitis media / mastoiditis – 10 year tertiary centre experience

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Background: Intra-cranial complications of acute otitis media or mastoiditis are rare but can result in significant morbidity and death.

Objectives: To determine the range of presenting features and clinical course of adults with intra-cranial complications of suppurative ear disease.

Methods: Retrospective case note review was performed to collect demographic, clinical, and radiological data.

Results:

Demographics - 41 patients with mean age 48.4 (range 21-77) were admitted to our institution from 2007 to 2017.

Complications - The intracranial complications included: venous sinus thrombosis (n=3), meningitis/encephalitis (n=20), extra-dural abscess (n=2), sub-dural abscess/empyema (n=8), temporal lobe abscess (n=4), and posterior fossa abscess (n=4).

Neurosurgical intervention – 16 patients required neurosurgical intervention including: ICP monitor insertion (n=3), EVD insertion (n=6), burr-hole drainage of abscess (n=4), craniotomy (n=6)

The total length of stay ranged from 1-154 days with a mean hospital stay of 30 days. Long-term morbidity was primarily due to neurological complications including epilepsy and hemiparesis.

4 Patients in our series died, there was no identifiable predictive factor that correlated with fatal outcome.

Significant long-term morbidity / death	n =
Epilepsy	1
Hemiparesis	6
Death	4

Conclusions: Intra-cranial complications of AOM affect a wide age range and present most commonly with meningitis / encephalitis. Over one third will require neurosurgical intervention.

A majority of patients recovered fully, however a significant number suffered long-term neurological morbidity and 4 patients died.

Cholesteatoma was strongly associated with posterior fossa abscess formation in our series.

ENT surgical intervention - 10 patients did not have otological surgery (mostly cases of meningitis and good early response to antibiotics) 10 had grommet insertion, 21 had mastoidectomy. 3 patients initially treated with myringotomy and grommet insertion subsequently underwent mastoidectomy.

6 patients had cholesteatoma, of which 4 presented with posterior fossa abscess. No patients presented with posterior fossa collection without cholesteatoma.